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Specification and Drawings, as originally filed, with Application for Patent Serial No:  
2,376,047, on March 5, 2002, by GARTH W. WHELEN, for "Bucket Flaps".

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## **ABSTRACT**

**Bucket Flaps Replacement Ear Flap/Warmers** are a replacement of the original ear flap/warmers found on ski/snowboarding helmets. The device tentatively called **Bucket Flaps** allows the user to listen to music, or in 2-way models communicate with coaches/trainers, comfortably and safely while wearing a ski/snowboarding helmet. **Bucket Flaps** is a design consisting of 2 speakers mounted inside 2 ear flaps/warmers for replacement of ski/snowboarding helmets. The connection wires are confined along the helmet chinstrap with a mono-plug connecting one side of the speaker system by closing the circuit at the helmet chinstrap connection. The speaker connection wires terminate at a 3.5mm stereo headphone connector plug that connects to any personal music player. A 2-way model includes a microphone to be located in one ear flap/warmers or at the chinstrap connection.

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## **INTRODUCTION**

**Bucket Flaps Replacement Ear Flap/Warmers** is a speaker system device designed to replace existing ski/snowboarding helmet ear flap/warmers. **Bucket Flaps** is a low-power stereo reproduction device with optional use as a 2-way communication device. It incorporates the use of existing electronics equipment (personal music devices and 2-way communication devices) connecting to **Bucket Flaps** for use of said equipment while skiing/snowboarding.

## **BACKGROUND/PRIOR ART**

**Bucket Flaps Replacement Ear Flap/Warmers** allows the user to comfortably listen to music while skiing/snowboarding with a helmet by eliminating headbands and in-ear style speaker systems. Most major styles of ski/snowboard helmets are now available with removable ear flap/warmers allowing for easy use of **Bucket Flaps**. Safety concerns with headphone use while skiing/ snowboarding are reduced by separating the speaker from the ear allowing for outside noises/sounds to enter and snags are avoided by confining the wires along the existing helmet chin strap. Convenience is increased with a mono-plug connection at the chinstrap buckle (i.e. CA1197669, or CA2265266) for putting on and removing the helmet.

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## **LIST OF DRAWINGS**

### **Figure 1(a) Major Components View**

- Shows the general placement of major components as in use as attached to Ski/Snowboard Helmet.

### **Figure 1(b) Major Components View**

- Shows the surface view of the said components without the helmet attached.

### **List of Drawing (continued)**

### **Figure 2 Ear Flap/Warmer Cutout View**

- Shows a cutout schematic of the Ear Flap/Warmer to illustrate the placement of the speaker system.

### **Figure 3(a) Replacement Chin Strap Connector**

- Shows a design view of the mono-plug and the chinstrap clip in a single combined unit.

### **Figure 3(b) 2-way Model Replacement Chin Strap Connector**

- Shows a design view of the mono-plug, microphone encasement and the chinstrap clip in a single combined unit.
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## DESCRIPTION

**Bucket Flaps Replacement Ear Flap/Warmers (1)** are a replacement of the original ear flap/warmers found on ski/snowboarding helmets (2) that are removable by temporary attachments (i.e. Zipper, Velcro, Snap) (17).

**Bucket Flaps** is a design consisting of 2 low-power speakers (3) mounted inside 2 ear flaps/warmers (1) for use with ski/snowboarding helmets (2). The speakers are mounted in separate small plastic mounting plates (4) that are then joined to the inside of the ear flap/warmers (1) in such a way as to allow the sound to pass freely through the inner layers (5) while being baffled by the outer layers (6). The mounting plates contain the necessary terminals (7) for the connection of the speaker terminal wires to the shielded 2-conductor speaker connection wires (8). The shielded 2-conductor connection wires (8) extend through a hole (9) from the ear flap/warmers (1) to the chinstrap (10) where they are confined along the helmet chinstrap (10) by means of a removable sleeve (11). The shielded 2-conductor connection wires (8) join at the mono-plug connection (12, see note) at the helmet chinstrap connection (13, see note). The mono-plug connection (12) allows the unobstructed

**Description (continued)**

removal of the helmet by allowing the mechanical separation of the 2 shielded 2-conductor connection wires (8) connecting one side of the speaker system to the remaining system components by mechanically opening/closing the circuit. At the mono-plug connection (12) the 2 shielded 2-conductor speaker connection wires (8) connect to a common ground, shielded 3-conductor connection wire (14) terminating at a stereo headphone connector plug (15) that connects to a personal music player. The 2-way model **Bucket Flaps Replacement Ear Flap/Warmers** includes the placement of a microphone to be in one of the ear

**Description (continued)**

flap/warmers (1), or at the chinstrap mono-plug connection terminal (12). The remaining connections are consistent with the stereo model terminating at a connection plug (15). **Note:** the second modification is a **Replacement Chin Strap Connector (12,13: Figure 3(a) and 12,13 2-way: Figure 3(b))** incorporating, in the stereo (12,13) model, the mono-plug and the chinstrap clip in a single combined unit whereby electrically conductive contact points are installed

**Description (continued)**

in the receiving end (12,13r) and the plug end (12,13p) of said chinstrap clip and said contact points are connected to said 2 shielded 2-conductor speaker connection wires (8) connected to a common ground, shielded 3-conductor connection wire (14) while functioning to fasten the helmet chinstraps (10) and providing a closed, and adequately shielded, electrical circuit when the clip is engaged.

**A 2-way Model Replacement Chin Strap Connector (12,13 2-way: Figure 3(b))** incorporates all said features of the stereo (12,13) model with the addition of a microphone encased in the receiving end (12,13r) of said clip in a manner permitting the travel of sound vibrations through the casing while prohibiting the entrance of moisture with all necessary electrical connections to provide a closed, and adequately shielded, electrical circuit when the clip is engaged.



## **CLAIMS**

1. Replacement Removable Ear Flap/Warmers with two (2) internally mounted (stereo) speakers, one in each ear flap/warmer, for use with ski/snowboarding helmets. The design incorporates mounting the speaker on a mounting plate with connections necessary to provide electrical power to said speaker and attaching the mounting plate between the first inner and first outer layers of the Replacement Ear Flap/Warmers in a manor preventing the speaker to move or shift within the ear flap/warmer or become damaged due to environment (i.e. Moisture). The electrical connections are extended from said speaker to an external media by a standard 3-way (Right, Left, Common) connection terminal plug and necessary wires to provide a closed-circuit electrical connection between said external media and said Replacement Ear Flap/Warmers speakers.
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**Claims (continued)**

2. 2-Way Model of said Replacement Removable Ear Flap/Warmers (claim 1.) with one (1) or two (2) internally mounted (stereo) speakers and one microphone for use with ski/snowboarding helmets. The microphone, in the case of the one (1) speaker model, replaces one (1) of the previously mentioned (from claim 1.) speakers, and, in both cases, the microphone is mounted in the same manor as the speaker (on a mounting plate with necessary electrical connections between the 1<sup>st</sup> inner and 1<sup>st</sup> outer layers of the ear flap/warmers) or is connected to the chinstrap at the location of the chinstrap connection on external wire. For the two (2) speaker model a standard 4-way connection plug shall be installed to provide adequate connection to external media (i.e. Cellular Phones, 2-Way Radio Transceivers).
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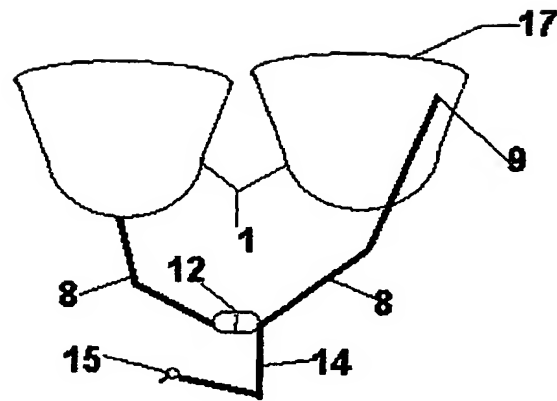
**Claims (continued)**

3. The Replacement Chinstrap Connection Terminal for ski/snowboard helmets is a quick-click type connector with two separated electrical contact surfaces that come into contact closing an electrical circuit when the two (2) sides of the quick-click type connector are joined, in a manner preventing shock and damage due to external moisture, and also functioning to sufficiently fasten the two (2) chinstraps of the said helmet (refer to claim 1.).
  4. The said Replacement Chinstrap Connection Terminal for ski/snowboard helmets (claim 3.) with the addition of an internally mounted microphone replacing said externally mounted microphone (claim 2.) encased in a manner as to prevent damage to, by mild impact or environmental concern (i.e. moisture), and allow efficient sound passage to said microphone.
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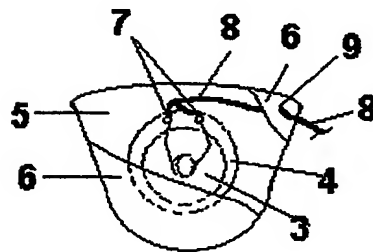
**Claims (continued)**

5. The said Replacement Ear Flap/Warmers (claim 1., claim 2.) with or without the addition of a Replacement Chinstrap Connection Terminal (claim 3., claim 4.) with the addition of a mechanical device that interrupts by way of resistor (of variable or fixed resistance value), or by the opening of the electrical circuit by the separation of one or more electrical contact plates within a switch, the normal flow of electrical signal (electricity) in any conventional direction.

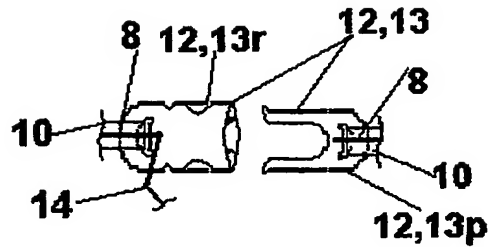
**Figure 1(a)**  
**Major Components View (Assembled)**



**Figure 1(b)**  
Major Components View



**Figure 2**  
Ear Flap/Warmer Cut-Out View



**Figure 3(a)**  
Replacement Chinstrap Connector



**Figure 3(b)**  
Replacement Chinstrap Connector Receiver 2-Way Model

### **WARNING**

It is important that **Bucket Flaps** be operated with volume levels low enough to allow the user to be aware of outside audible warnings while in use. Prolonged continuous exposure to loud music may cause hearing loss.

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